

**REMARKS**

The Examiner is thanked for the due consideration given the application.

Claims 1-13 and 18-26 remain pending in the application. Independent claims 1 and 18 have been amended to set forth features of the screwing means or threads, which find support in the drawing figures and in the specification at page 9, lines 8-16. New claims 25 and 26 set forth subject matter removed from claims 1 and 18.

No new matter is believed to be added to the application by this amendment.

**Claim Rejections - 35 USC §112**

Claims 1-13 and 18-24 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

The comments in the Office Action concerning the coating have been considered, and independent claims have been amended to remove a limitation and recite it in new claims 25 and 26 so as to clarify the nature of the coating.

The claims are thus clear, definite and have full antecedent basis.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

### **Art Rejections**

Claims 1, 2, 5, 13, 18 and 20 have been rejected under 35 USC §102(b) as being anticipated by Tronzo (US Patent 3,840,904).

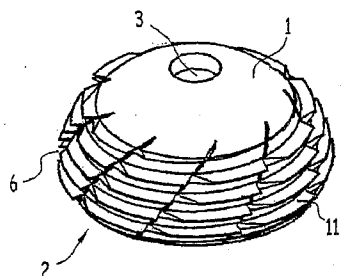
Claims 3, 4, 19, 21 and 22 have been rejected under 35 USC §103(a) as being unpatentable over Tronzo in view of Sidebotham (US Pub. 2005/0267585).

Claims 6, 7 and 24 have been rejected under 35 USC §103(a) as being unpatentable over Tronzo in view of Mallory (US Patent 4,883,491).

Claims 9, 10 and 12 have been rejected under 35 USC §103(a) as being unpatentable over Tronzo in view of Tager (US Patent 5,147,407).

These rejections are respectfully traversed.

The present invention pertains to an acetabular insert that is exemplarily illustrated in Figures 1 and 2 of the application reproduced below.



**FIG.1**

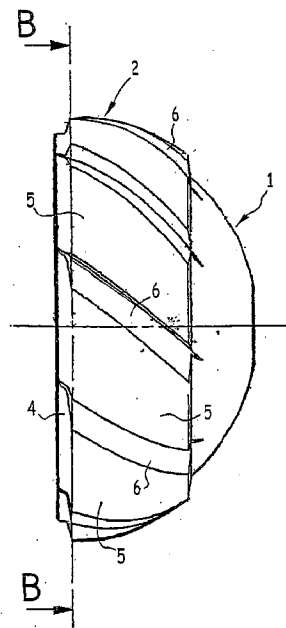
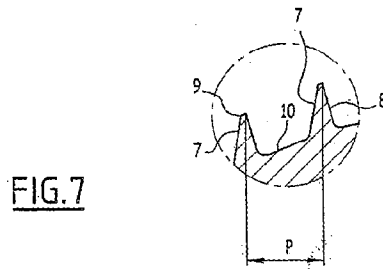


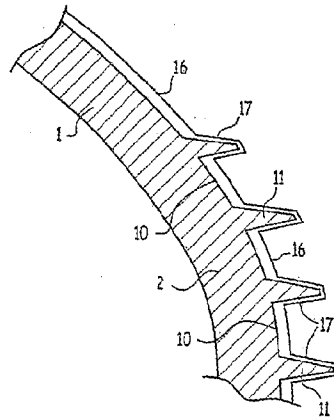
FIG. 2

The acetabular implant includes a screw cup configured to receive an articular insert. A screwing device is at a periphery or in a tropical/equatorial zone (2) of the cup, and is intended to be introduced into bone material of the acetabulum during a screwing action. The screwing device includes screw reliefs, each screw relief having a polar face, an equatorial face and a crest.

A coating is carried by the cup, which coating facilitates osteointegration. The coating is thick on convex portions (1, 10) of an outer surface of the cup, including on thread bottoms of the screwing device, and the coating has a lesser thickness, or is even absent, on screw reliefs of the screwing device. The thin coating covers both the equatorial and polar faces and the crests of the screwing device. This can be seen in Figures 7 and 8, which are reproduced below.



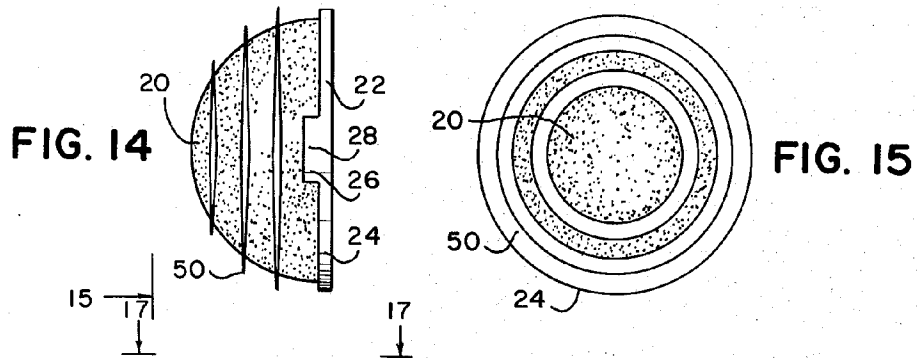
**FIG. 7**



**FIG. 8**

Tronzo pertains to an acetabular cup prosthesis.

Figures 14 and 15 of the reference are reproduced below.



Tronzo discloses, in view of Figures 14 and 15 and column 3, lines 45 to 51, an acetabular implant formed from a cup 20 configured to receive an articular insert. The cup 20 has

parallel blades 50, each blade 50 extending in a circular direction parallel to the diameter or in a direction that is inclined which respect to the diameter.

The cup 20 is coated with a porous composition to aid bone growth to interlock with the cup (column 2, lines 31 to 36). The blades are not necessarily coated with this composition. The coating is obtained by molding (column 2, lines 57 to 62) or using metallization techniques (column 4, lines 19 to 21).

The Office Action also asserts that the functional language set forth in the claims can be fully met by Tronzo, as they are an intended use.

However, a functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004).

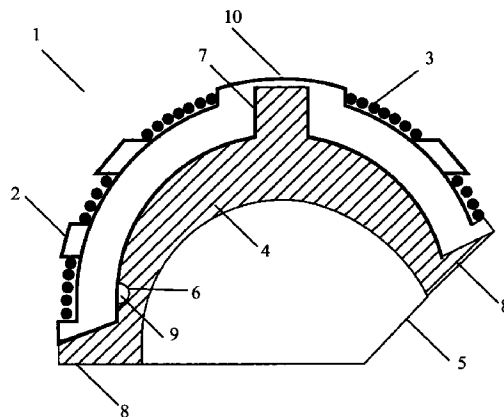
Tronzo thus does not anticipate a claimed embodiment of the present invention.

Turning to the unpatentability issues, the Office Action acknowledges that Tronzo does not teach a thickness of the thick coating on an order of 150 +/- 35  $\mu\text{m}$  (or 50 +/- 30  $\mu\text{m}$ ) or a

selective calcium hydroxyapatite coating. Sidebotham is referred to as evidence to address these deficiencies.

Sidebotham discloses an acetabular cup for dogs fitted into a bone cavity by controlled interference. In view of Figure 2 (reproduced below), the cup carries a porous coating obtained by sintering titanium beads onto the outer surface of the cup, the beads being held between circumferential ribs.

**Fig. 2**



Mallory and Tager have already been cited in previous Office Actions. Tager discloses acetabular implants which do not carry a coating facilitating osteointegration.

To recap, Mallory pertains to an acetabular implant. Figure 1 of Mallory is reproduced below.

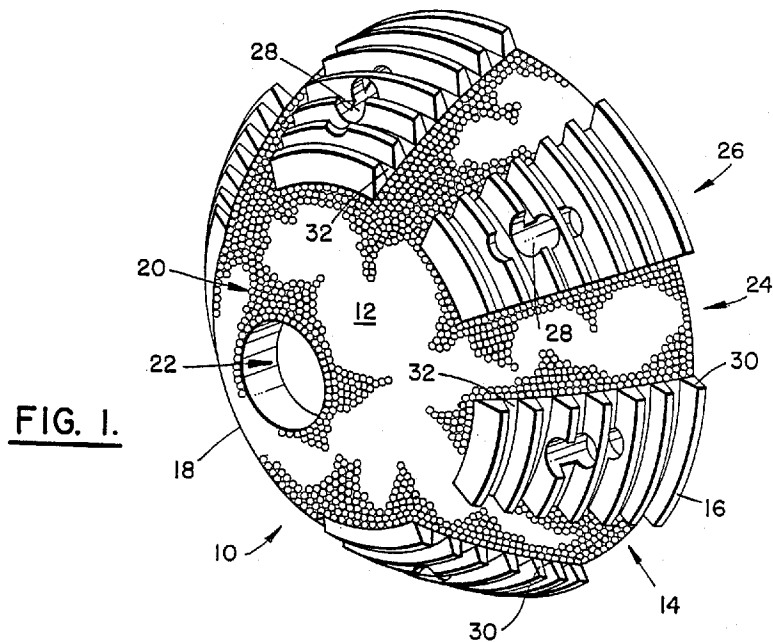


Figure 1 of Mallory shows:

a screw cup 10 configured to receive an articular insert, screwing means (formed by thread 16) at a periphery of the cup 10, which are intended to be introduced into the bone material of the acetabulum during a screwing action, and a porous coating carried by the cup 10.

That is, Mallory discloses an acetabular cup having threaded columns 26 formed from thread portions 16 and porous-coated columns 24. The thread bottoms of the threads of the thread portions 16 do not comprise a porous coating. The porous coating is obtained by sintering metal beads onto the outer surface of the cup or by plasma spray.

The Office Action considers that the blades 50 disclosed in Tronzo meet the limitation of screwing means intended to be introduced into the bone during a screwing action

and that the subject-matter of claim 1 is therefore not novel in view of Tronzo.

However, the parallel blades, such as the blades disclosed in Tronzo, are not adapted to obtain a screwing action. Furthermore, Tronzo neither describes nor suggests that the acetabular implants of Figures 14 and 15 are screwed into the bone. For these reasons, the subject-matter of claim 1 is, in our view, novel in view of Tronzo.

Indeed, Mallory discloses an acetabular implant having certain aspects of the present invention except for the coating on the thread bottoms, and Tronzo teaches to coat the surfaces between the blades 50, which could be assimilated to thread bottoms, with a porous coating.

Moreover, in Tronzo, the coating can be applied by metalizing techniques, which might include plasma spraying, where some of the coating might inadvertently be applied onto the blades when spraying it onto the surfaces between the blades.

However, in order to differentiate the subject-matter of claims 1 and 18 more clearly from Tronzo and Mallory, the feature according to which the coating is absent on the screw reliefs from claim 1, and specifying that *"the thin coating covers both the equatorial and the polar faces and the crests of the screwing means"* (see also paragraph [0014] of the publication of patent application).

Providing a thinner coating on the screw reliefs improves the shearing strength of the coating and therefore reduces the risks of delamination of the coating during the screwing action, while at the same time bringing about excellent mechanical engagement and also allowing improved osteointegration owing to the presence of the porous coating on the screw reliefs (see paragraph [0056] of the patent application).

Therefore, the present invention is not anticipated by the applied art, and one of ordinary skill and creativity would thus not produce a claimed embodiment of the present invention from a knowledge of the applied art, and a *prima facie* case of unpatentability has thus not been made.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

### **Conclusion**

Prior art of record but not utilized is believed to be non-pertinent to the instant claims.

As no issues remain, the issuance of a Notice of Allowability is respectfully solicited.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any

additional fees required under 37 C.F.R. § 1.16 or under 37  
C.F.R. § 1.17.

Respectfully submitted,

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